

JMYT-237US

PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Martyn Vincent Twigg : Art Unit:  
 Application No.: To Be Assigned : Examiner:  
 Filed: Herewith :  
 FOR: PROCESS AND APPARATUS FOR :  
 TREATING COMBUSTION EXHAUST GAS :

5/17  
 D.G.  
 1-10-02

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
 Washington, DC 20231

SIR:

Prior to examination, please amend the above-identified application as follows.

IN THE CLAIMS:

Please replace claims 1, 4-7, 9-12, 14-16, and 18-21 with the following amended claims.

1 1. (Amended) A system for treating combustion exhaust gas,  
 2 which system comprising: a catalyst effective to promote oxidation of at least NO  
 3 to NO<sub>2</sub>; a filter downstream of the oxidation catalyst, which filter being effective to  
 4 collect soot and hold it for combustion reaction with the NO<sub>2</sub> in the gas; a NOx  
 5 absorber downstream of the filter, which NOx absorber is charged with solid  
 6 adsorbent; means for introducing intermittently a regenerant of the absorber, which  
 7 means being effective to inject a NOx-specific reactant upstream of the absorber;  
 8 and a catalyst system effective to promote reactions of hydrocarbons (HC) and CO  
 9 with O<sub>2</sub> to H<sub>2</sub>O and CO<sub>2</sub> and to treat NOx to N<sub>2</sub>, wherein said catalyst system is at  
 10 least one of: (1) associated with the absorber; or (2) located downstream of the  
 11 absorber.

1 4. (Amended) A system according to claim 1, wherein the NOx  
 2 absorbent comprises at least one of: (a) compounds of alkali metals, alkaline earth  
 3 metals, rare earth metals and transition metals or a mixed oxide of any two or more  
 4 thereof; and (b) zeolites, carbons and/or high surface area oxides.